STUDY PROJECT

THE ARMY FLYING HOUR PROGRAM IS THE PREDICTION METHODOLOGY FLAWED?

BY

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24 APRIL 1989

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Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) The Army Flying Hour Program: Is the Prediction Methodology Flawed?		5. TYPE OF REPORT & PERIOD COVERED Individual Study Project 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Lieutenant Colonel Ted D. Cordrey		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Army War College Carlisle Barracks, PA 17013-5050		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Same		12. REPORT DATE 24 April 1989 13. NUMBER OF PAGES 36
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release: distribution is unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The Army Flying Hour Program has evolved over the years into an extremely sensitive issue for the Army Staff. It is a large budget item, over 392 million dollars in Fiscal Year 1990, growing to over 425 million dollars in Fiscal Year 1995. The sensitivity in Congress and the Department of Defense arises from an inability to accurately predict and manage annual flying-hour requirements and costs. The Army has underflown the budgeted program during the past five years by approximately 637,000 hours. This study seeks to examine the Army's methodology for predicting and budgeting flying-hour requirements and to (Cont)

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Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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USAWC MILITARY STUDIES PROGRAM PAPER

THE ARMY FLYING HOUR PROGRAM IS THE PREDICTION METHODOLOGY FLAWED?

AN INDIVIDUAL STUDY PROJECT

by

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AUTHOR: Ted D. Cordrey, LTC, AV

TITLE: The Army Flying Hour Program - Is the Prediction Methodology Flawed?

FORMAT: Individual Study Project

DATE: 24 April 1989 PAGES: 33 CLASSIFICATION: Unclassified

The Army Flying Hour Program has evolved over the years into an extremely sensitive issue for the Army staff. It is a large budget item - over 392 million dollars in Fiscal Year 1990, growing to over 425 million dollars in Fiscal Year 1995. The sensitivity in Congress and the Department of Defense arises from an inability to accurately predict and manage annual flying hour requirements and costs. The Army has underflown the budgeted program during the past five years by approximately 637,000 hours. This study seeks to examine the Army's methodology for predicting and budgeting flying hour requirements and to recommend improvements in the development process. The study will also highlight and contrast the forecasting procedures at the unit, major command (MACOM), and Department of the Army levels. This comparison is critical to an understanding of the problem. Although many factors impact on the development and execution of a flying hour program, I approached the subject matter from a senior management viewpoint. That perspective gave me a great deal of latitude and flexibility in the study. I concluded quickly there are no quick fixes or easy solutions to the problem. The dependent variables of repair parts cost and availability, scheduled and unscheduled maintenance, assigned strength postures (both pilot and maintenance personnel), flight simulator availability, and even weather impact heavily on a flying hour program's viability. If however, the Army is to sustain its aviation combat readiness during projected periods of constrained resources, then it must do a better job of predicting flying hour requirements. The scrutiny of the budget at all levels dictates that we do so. Hopefully, this study will move the Army in the right direction.

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IS THE PREDICTION METHODOLOGY FLAWED?

CHAPTER I

INTRODUCTION

The methodology associated with development of the Army Flying Hour Program (FHP) has been scrutinized on more than one occasion in the past few years. Congress has repeatedly questioned the Army's stated annual requirement for flying hours.1 The attraction for Congress is obvious. Flying hours are expensive. The funding requirements for the FY89 Army Flying Hour Program exceed $392 million dollars.2 Because of a long standing belief that the program is poorly constructed and mismanaged, Congress has not hesitated to reduce the Army's flying hour budget during periods of tight fiscal constraints. Unfortunately, the Army's track record with regards to execution of the resourced flying hour program has not been good in recent years and only serves to fuel the thesis of poor management.

BACKGROUND

The intent of this study is to review current Army flying hour prediction procedures and to provide recommended improvements to the development process. Reestablishment of our credibility is critical as the Army moves into a budget cycle of tighter and tighter resources. The execution rates (hours actually flown divided by resourced hours) for the past 5 years are as follows:3

	Hours Flown	Hours Resourced	Execution Rate
FY84	1,513,877	1,629,577	92.9%
FY85	1,587,347	1,767,647	89.8%
FY86	1,677,248	1,919,048	87.4%
FY87	1,664,379	1,731,579	96.1%
FY88	1,755,441	1,788,341	98.2%

In short, the figures support the notion that the Army has developed and is sustaining a flying hour credibility problem with the legislative branch of government. Note the upswing in resourced hours from FY84 to FY86 and the corresponding downswing in subsequent years. The FY88 execution rate of over 98% is very good. But is it because the Army finally has a handle on requirements or that we are only seeking resources to the level of our capabilities? When assessing readiness this becomes a very pertinent issue.

CONCERNS OF THE ARMY STAFF

The credibility issue has been addressed at the most senior levels of the Army's command structure. In late 1983, the Director of Training, Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS) requested the US Army Audit Agency (AAA) evaluate the development and performance of the Army Flying Hour Program.4 Their evaluation was conducted from February 1984 to March 1986 and reported as a major finding that "the flying hour program for FY88-90.....may not properly reflect actual flying hour requirements for Active Army units and may not be

supportable."5 The report "estimated that the flying hour requirements were overstated by about 69,800 hours in FY88-90 at a cost of at least $5.2 million in FY88, $5.2 million in FY89, and $5.1 million in FY90 (based on DA FY85 standard direct cost rates)."6 This study confirmed that the underlying factors associated with the Audit Agency's findings in 1986 remain firmly entrenched today. I believe there is little confidence that the current program objective memorandum (POM) 90-94 accurately reflects Army flying hour requirements.

SERVICE STAFFING

One observation should be made before addressing the subject. During my research, an obvious question to be answered was "Does the Navy or Air Force have a similar problem with their respective flying hour programs"? The short answer is no they do not. Each of their programs have experienced overflight and underflight problems during the past 5 years but there is not a groundswell of criticism such as the Army has and continues to experience. Between FY84 and FY88 the cumulative total for the Navy was overflight of their program by 2.3% while the Air Force underflew their program by 3.7%.7 The cumulative total for the Army during the same period was underflight of the program by 35.6%. What I learned has direct bearing on the problem at hand. Although the Army manages an aircraft fleet larger than the Navy and about as large as the Air Force, the HQDA ODCSOPS staff dedicated to management of flying hour programs is significantly different. The Navy and Air Force staff number approximately six

each while the Army dedicates only one individual to the program on a full-time basis.8 Clearly, this management structure puts the Army at a disadvantage when addressing program improvements, changes, and execution. For example, the other services have the capability to mix military and civilian personnel within their flying hour program development structure. By doing so, they are able to combine the talents of personnel who understand, in great detail, the flying hour requirements at both the unit and service level. The Army has no such flexibility.

RECENT DIRECTIVE

From any viewpoint, movement from a low execution rate of 87.4% in 1986 to the FY88 rate of 98.2% is marked improvement. My study indicates that although things are looking better on paper, our management procedures are still suspect.9 This notion was reinforced by a memorandum on 19 January 1989 from David S. C. Chu, Executive Secretary to the Defense Resources Board (Programming Phase) to the Secretary of the Army, directing the Service to submit a report to the Deputy Secretary of Defense NLT 1 May 1989 which addresses the following topic.10

> A report outlining its (the Army's) plans for improving the management of the Aviation Flying Hour Program, estimating resource requirements, and integrating these requirements into the PPBS.

Clearly, senior Department of Defense officials are still of the opinion that Army management procedures are weak and in need of improvement.

ENDNOTES

1. Personal and Telephonic Interviews/Discussions with Fred Kolstrom, Department of the Army Civilian (GM-14). Action Officer, Directorate of Training (DAMO-TRS), Deputy Chief of Staff, Operations, Department of the Army. 1 December 1988-24 March 1989.

2. Army Flying Hour Program. Department of the Army Flying Hour Summaries FY88 to FY95, Computer Printout, OSD Budget 9 Nov 88, page 6.

3. Memorandum, subject: Comparison of Navy and Army Management of Flying Hour and OPTEMPO Programs. Memorandum to: Director of Training, Deputy Chief of Staff, Operations, Department of the Army. Undated (on file in DAMO-TRS).

4. Harold L. Stugart, Audit of the Army Flying Hour Program, Audit Report: MW 86-707, p. i.

5. Ibid., p. 3.

6. Ibid.

7. Memorandum, subject: Comparison of Navy and Army Management of Flying Hour and OPTEMPO Programs and Ibid. Kolstrom, 17 April 1989.

8. Ibid.

9. Thomas King and Jim Worthington, Memorandum for Mr. Chu, Report on Army Management of Flying Hour and OPTEMPO Programs.

10. David S. C. Chu, Memorandum for Secretary of the Army, POM-Directed Study of Army Aviation.

CHAPTER II

ARMY AUDIT AGENCY REPORT

The most effective way to give the reader an appreciation of the subject matter and its associated problems is to highlight the observations and conclusions of the previously mentioned Army Audit Agency's (AAA) 1986 report on the Army Flying Hour Program. The overall objective of the audit was to evaluate the development and performance of the Army Flying Hour Program.1 Specific audit objectives were:

- Determine whether sufficient flying hours are available to perform required training and mission support requirements.2

- Evaluate the adequacy of Operation and Maintenance, Army funding for the flying hour program.3

- Determine if aviation parts support is effectively managed and if repair parts are available to support the Army's Flying Hour Program.4

- Determine whether flight simulator hours are adequate and used effectively.5

MAIN OBSERVATIONS AND CONCLUSIONS

A quick review of the following selected AAA observations and conclusions will help to assimilate the reasons underlying the growth and sustainment of the credibility issue:

1. Sufficient hours were available in the FY84 and FY85 flying hour programs to perform minimal training and mission support requirements. Sufficient flying hours, however, were not

available to perform all of the individual, unit, combined arms and major command-unique training needed.6

2. In December 1983, models were developed for the first time that identified and quantified hours for individual, unit, combined arms, and major command-unique training needed for the aircraft systems assigned to the seven major types of aviation units. The development of these flying hour models was a major improvement by the Army.7

3. The flying hour models did not identify requirements for all aircraft assigned to an aviation unit.8

4. The flying hour programs for FY88-90, which were based on the models, may not properly reflect actual flying hour requirements for Active Army units and may not be supportable.9

5. The procedures used for reporting flying hours do not provide sufficient information for Army managers to effectively justify, monitor, and manage the flying hours used.10

6. The methodology used for determining requirements and subsequent allocations of FY88-90 flying hours to the major commands was not consistently applied.11

7. The Operation and Maintenance, Army funding for the flying hour program may not be sufficient.12

8. The FY85-90 flying hour program did not provide an accurate assessment of funds needed to execute the program.13

9. The current Standard Army Financial System does not accommodate the Army management needs regarding flying hour program financial and accounting data.14

10. Management of aviation repair parts at all operating levels needed improvement.15

11. Management of aviation repair parts support at the U. S. Army Aviation Systems Command also needed to be improved.16

12. Sufficient aviation repair parts were generally available to support the flying hour program.17

13. Flight simulator time was used effectively.18

14. Scheduled maintenance for the FY84 maintenance contract of Army flight simulators was not effectively monitored.19

15. The established system for reporting flight simulator data needed to be improved.20

16. Accounting controls over the management of simulator funds needed to be strengthened.21

17. The complexity and magnitude, the significant costs, and the associated high visibility of the flying hour program would warrant re-evaluating the Army staffing structure.22

FLYING HOUR MODELS

The development of the flying hour models addressed in the AAA report, item 2 above, was a major improvement over the helter skelter metnods previously utilized. However, this study revealed that not much has been done in this area since the mid-1980's. The models are not currently being utilized as a means to project requirements. They did form the basis for a draft Army regulation in 1985/1986 which outlined the manner in which major commands and agencies are to develop, budget, and execute their flying hour programs. That regulation is, however, still

in draft form and is not presently being staffed. There is no indication that the regulation will ever be fielded. Hence the models are not proving to be the savior of the program they once were thought to be.23

ASSESSMENT OF REPORT

Observation numbers 1, 3, 4, and 5 go right to the root of the problem the Army has today - accuracy. The tone of the report was the Army needs more flying hours to insure the combat readiness of its aviation crews and units, a fact well known throughout the aviation force structure. Actual requirements were not being adequately addressed in the flying hour program development process. The models, although not perfect, also reflected the need for more hours. A ramp-up of the program to these higher levels would take time to accomplish, specifically because of logistics supportability issues (long lead-time repair parts to support a higher flying hour rate). It appears a ramp-up occurred beginning in 1985 and that the Army was not able to cope with the additional hours. In 1987 the hours began to come down to the 1983 and 1984 levels.24 The key point here is that everyone believed more hours were needed to insure a higher state of combat readiness. But when the additional hours started to show up in unit flying hour programs, they were unable to execute to the higher levels. The reasons for this inability to execute were many. They included shortages of repair parts, shortages of maintenance personnel and aviation crewmembers, and poor training management procedures. There were other reasons but the

bottom line is that the Army was not prepared for the additional hours, nor are they, for the most part, ready today.

RECENT DEVELOPMENTS

ODCSOPS is currently creating a new aviation unit flying hour prediction model along the lines of the ground oriented Battalion Level Training Model (BLTM). When completed HQDA should have a better capability to accurately forecast flying hour requirements, particularly in the out years of the POM cycle. Accuracy in the out years is critical because the Office, Deputy Chief of Staff, Logistics, Department of the Army (ODCSLOG) uses the data to order long lead time aviation repair parts. It is very easy to understand the financial impact on the program if the out year forecast is significantly higher or lower than what the actual program turns out to be.25

ENDNOTES

1. Harold L. Stugart, Audit of the Army Flying Hour Program, Audit Report: MW 86-707, p. I.
2. Ibid., p. 1.
3. Ibid.
4. Ibid.
5. Ibid.
6. Ibid., p. 2.
7. Ibid.
8. Ibid., p. 3.
9. Ibid.

10. Ibid., p. 4.

11. Ibid.

12. Ibid.

13. Ibid., p. 5.

14. Ibid.

15. Ibid.

16. Ibid.

17. Ibid., p. 6.

18. Ibid.

19. Ibid.

20. Ibid.

21. Ibid., p. 7.

22. Ibid.

23. Personal and Telephonic Interviews/Discussions with Fred Kolstrom, Department of the Army Civilian (GM-14). Action Officer, Directorate of Training (DAMO-TRS), Deputy Chief of Staff, Operations, Department of the Army. 1 December 1988-24 March 1989.

24. Ibid.

25. Ibid.

CHAPTER III

AVIATION UNIT METHODOLOGY

The preceding chapters have highlighted some of the problems the Army is experiencing with the flying hour program. Let's now focus on how the Army identifies requirements beginning at the aviation unit level. Department of the Army regulations require all aviation unit commanders to develop an annual flying hour program. Specifically, Chapter 5 of Training Circular 1-210 dated 31 October 1986, Subject: Aircrew Training Program Commander's Guide, directs that each commander of units possessing aircraft formulate a realistic flying hour program.1 It further states that in order to achieve the ideal balance of readiness at the lowest cost, the commander must consider:

a. Crew member density.

b. Annual crew member turnover.

c. Number of aircraft assigned.

d. Mission support requirements.

e. Number of hours necessary for aircraft maintenance.

f. Current status of aviation and supported unit training.2

TRAINING REQUIREMENTS

The following data from TC 1-210 dealing with development of a flying hour program is provided to give the reader an appreciation for the methodology being used in the field today. More importantly it will serve as the basis for comparison with the system currently being utilized at HQDA. This comparison is

critical. The field model is people based. The HQDA model is airframe based.

For illustrative purposes, I will develop an annual flying hour program for an AH-1 Attack Helicopter Battalion. These specific type units are currently being organized and fielded throughout the Army. In this case, the program is being formulated at the battalion level (input is received from each assigned company). Pertinent data is as follows:

AH-1 Aviators Auth/OH = 52/40

AH-1 Auth/OH = 21/21

Annual Aviator turnover rate = 30% (derived from past replacement experience)

Estimated number of newly assigned aviators to undergo qualification or refresher training = 12 (30% of 40)

Qualification training planning factor = 4 hours3

Refresher training planning factor = 19 hours4

Mission training planning factor = 16 hours5

Night vision goggle qualification training = 10 hours6

Night vision goggle refresher training = 6 hours7

Continuation training planning factor = 55 hours8

Simulator time deducted from flying hour requirements per aviator = 12 hours9

All of the above factors are identified in various aviation training manuals and circulars. They are not arbitrarily selected or computed. The commander is told these are the number of hours required to accomplish a task or training event.

The second part of a unit's flying hour program incorporates unique mission support and operational requirements.

They generally fall into the following 10 areas:

a. Combat, combat support, and combat service support.

(1) Logistics.

(2) Firepower.

(3) Maneuver and troop lift.

(4) Command, control, and communications.

(5) Intelligence, reconnaissance, and security.10

b. Training and training support.

(1) Formal resident flight training.

(2) Support of installation training activities.

(3) Support of Army service schools' programs of instruction.

(4) Technical aviation operations and aircraft maintenance training.11

c. Executive and staff transport. Support of local administrative, executive, and inspection functions.12

d. Support of assigned crewmembers, staff personnel assigned to flying duty, or Reserve Component crewmembers.13

e. Research, development, test, and evaluation.14

f. Aerial photography and mapping.15

g. Aeromedical evacuation, crash rescue, or search and rescue.16

h. Intelligence and classified projects.17

i. Attaches, missions, and Military Assistance Advisory Groups.18

j. Special missions unique to location or operation.19

Other factors which should be considered by the commander as he develops his program include the below listed items:

a. To the degree possible, collective training should be integrated into operational missions. Because an AH-1 unit will not have many non-combat related operational missions (as identified above) in the course of a flying hour year, it should

be expected that an additional number of hours will be required for the unit to accomplish collective training events (i.e., movement to contact).20

b. The commander must also estimate hours for maintenance activities (test flights). As a general rule 5 percent of the total program should be allocated to maintenance activities. This figure can be adjusted as required.21

c. The commander must answer the question "how much of my individual training can be accomplished during mission support or collective training?" There will always be individual training events which, for safety and standardization purposes, can only be accomplished in a pure individual training environment -nothing else should be accommodated while the training is in progress. In this case, the commander has determined that 50% of his individual training requirements can be accomplished in conjunction with other activities.22

COMPLETED UNIT PROGRAM

The completed model based on these facts is as shown below. In actuality, this model is completed for each type of helicopter assigned to the unit. The request for flying hours is then forwarded by type aircraft to the next higher major command responsible for the allocation of flying hours.

- AH-1 aviators assigned = 40 aviators
- Annual aviator turnover rate = 30%
- Estimated number of newly assigned aviators to undergo refresher training = 12 (30% of 40)
- Qualification training = 4 hours x 6 aviators = 24 hours
- Refresher training = 19 hours x 12 aviators = 228 hours
- Mission training = 16 hours x 12 aviators = 192 hours
- Continuation training = 55 hours x 12 aviators x 3/4 = 495 hours (3/4 is the estimated portion of a training year remaining for newly assigned aviators.)
- Continuation training = 55 hours x 28 aviators = 1540 hours

- Night vision goggle qualification training = 10 hours x 3 aviators = 30 hours
- Night vision goggle refresher training = 6 hours x 7 aviators = 42 hours

TOTAL TRAINING HOURS REQUIRED 2552 hours

LESS SIMULATOR HOURS PER AVIATOR 40 x 12 = -480 hours

REVISED TRAINING HOURS REQUIRED = 2071 hours

- Collective training hours (unit and combined arms) = 1800 hours
- Mission support hours = 100 hours
- Training hours accomplished during mission support and collective training (50% of 2071) = 1036 hours
- 2071 hours + 1800 hours + 100 hours - 1036 hours = 2935 hours

Maintenance Support Hours (2935 x .05) = 147 hours

TOTAL FLYING HOUR REQUIREMENTS = 2935 hours + 147 hours = 3082 hours

SUMMARY

The intent of this chapter has been to expose the reader to the detailed process an aviation commander goes through as he develops his flying hour program at the unit level. Exposure to the details was required to adequately depict the intrinsic nature of the methodology. The key point is that the process is people and event based.

In subsequent chapters I will refer back to this process to demonstrate why I believe the Army has underflown its resourced flying hour by 637,000 hours during the past 5 years. Although I consulted with other aviation personnel in the development of this AH-1 flying hour program, the mathematical computations and estimations are strictly mine and are based on my 20 years of

aviation service, the last of which was with an attack helicopter battalion.

ENDNOTES

1. U. S. Department of the Army. Training Circular 1-210: Aircrew Training Program: Commander's Guide. Washington, D.C. 31 October 1986, p. 5-1.

2. Ibid.

3. U. S. Army Aviation Center. Field Circular 1-213: Aircrew Training Manual: Attack Helicopter, AH-1. Fort Rucker, Alabama. 30 September 1984, p. 2-9.

4. Ibid., p. 3-3

5. Ibid., p. 4-2.

6. U. S. Army Aviation Center. Field Circular 1-219: Aircrew Training Manual: Night Vision Goggles. Fort Rucker, Alabama. 31 December 1984, p. 2-5.

7. Ibid., p. 209.

8. Field Circular 1-213, p. 5-1.

9. Ibid., p. 5-2.

10. Training Circular 1-210, p. 5-2.

11. Ibid.

12. Ibid.

13. Ibid.

14. Ibid.

15. Ibid.

16. Ibid.

17. Ibid.

18. Ibid.

19. Ibid.

20. Ibid.

21. Ibid.

22. Ibid.

CHAPTER IV

MAJOR ARMY COMMAND ACTIONS

The data provided in the previous chapter highlights procedures utilized by all Army aviation units to determine their respective flying hour requirements. As noted, the governing training circular, TC 1-210, provides the basis for standardization of flying hour computations throughout the Army. Clearly, some units have unique training and operational requirements which may provide rationale for deviation from the model (i.e., transition training from one aircraft to another during modernization of the fleet). In all cases the model is people based and allows for flexibility in addressing command unique requirements. Once the computations are completed they are then forwarded to the next higher headquarters for incorporation in the planning and budgeting process. For example, the 1st Infantry Division (Mechanized) Fort Riley, Kansas, forwards their requirements to Forces Command, Fort McPherson, Georgia.

MACOM INPUT

At the Major Army Command (MACOM) headquarters there are generally no recomputations required. The MACOM Aviation Officer utilizes military judgment and historical data to quickly highlight any significant deviations from what is normal for that type unit. The MACOM will then total the requirements for their subordinate units and forward the data for all aircraft systems

to HQDA for resourcing. In a perfect year, every requested hour would be resourced and funded for execution prior to the start of the fiscal year and, in a perfect year, 100% of that funded program would be executed. To illustrate this process, lets look at Forces Command (FORSCOM) FY89 flying hour requirements. They were forwarded to HQDA by letter on 1 July 1988. This one page document highlighted the following requirements:1

SYSTEM	NO. ACFT	RQD HOURS
AH-1	298	38,688
AH-64	228	38,412
CH-47C	16	1,700
CH-47D	127	22,445
OH-58A/C	499	88,845
OH-58D	54	10,733
UH-1	17	4,473
UH-1	548	96,158
UH-60	309	62,123
C-12	2	1,200
C-12	19	11,400
OV/RV	21	4,327
RU/21	13	5,460
T-42	0	0
U-21	19	7,980
U-21	9	3,780

The MACOM input is received by the appropriate staff element at HQDA and becomes the basis for resourcing actions. Individual aircraft systems may or may not be resourced at

requested levels. Variables impacting on the program at this point include anticipated congressional budgetary guidance, program funding expectations, in-service budgetary constraints, force structure additions or deletions, and other factors which must be considered.2

With regards to the specifics of the FORSCOM FY89 flying hour program, it is difficult to assess the accuracy of their request. During my discussions with FORSCOM staff personnel concerning this study I confirmed they use an in-house model to cross-check subordinate unit input and to assist with the packaging of their flying hour program.3 Use of the model has been very beneficial to the command when forecasting flying hour requirements, particularly for program years 2 thru 5 of the POM. The elements of their model mirror for the most part those components of the individual unit program discussed in Chapter III and, as is the unit model, the FORSCOM model is <u>people</u> based. The other item of note is that between 1 July 1988 and 24 February 1989 the number of aircraft in each system within FORSCOM changed in 7 of the 9 rotary wing categories, some by a large margin (i.e., the number of AH-1 aircraft on 1 July 1988 was 298, on 24 February 1989 the number was 235).4 Reasons for the drop in aircraft include accelerated force structure changes, mathematical errors, aircraft identified as no longer flyable, etc. My experience is that this will always be the case. The aircraft variable changes constantly in a macro sense at the MACOM level. If you base your flying hour requirement on aircraft systems, then you are going to be continually chasing

your true flying hour needs. Because both the unit and MACOM computations are based on the number of crews assigned (people based) the fluctuation in airframes is not of major concern. As we shall see in the next chapter this is not the case at HQDA.

ENDNOTES

1. Memorandum from Headquarters, Forces Command to HQDA (DAMO-TRS), subject: FORSCOM FY-89 Active Component Flying Hour Command Operating Budget (COB) Input. 1 July 1988.

2. Personal and Telephonic Interviews/Discussions with Fred Kolstrom, Department of the Army Civilian (GM-14). Action Officer, Directorate of Training (DAMO-TRS), Deputy Chief of Staff, Operations, Department of the Army. 1 December 1988-24 March 1989.

3. Telephone Interviews with Walter R. Dockery, Major. Chief, Operations Branch, Aviation Division, FCJ3-OV, U. S. Forces Command. 15 February 1989 and 10 March 1989.

4. Army Flying Hour Program. FORSCOM 1QFY89 Execution, Computer Printout, Initialization of the FY89 Program. 24 February 1989, p. 1.

CHAPTER V

DEPARTMENT OF THE ARMY

Construction and management of the flying hour program at HQDA is the responsibility of the ODCSOPS.1 The program is presently built on the assumption that for every airframe in the inventory there is one and only one crew available to fly the aircraft.2 I believe this assumption is the root cause of many of the problems the Army has articulating flying hour requirements with the Congress and DOD. The Army level system is airframe based while, as we have seen, the subordinate "users" of flying hours are stating their requirements in terms of crews available and annual personnel turnover rates. Only in rare instances will you find aviation units with exactly one assigned crew per airframe. Many are undermanned while a few are fortunate enough to have a crew ratio greater than one. It is this disconnect between a personnel based system and an airframe based system which causes the Army a great deal of difficulty in executing its resourced program. Recall from an earlier note that the Army has not executed at or above the 100% level since before 1984.

LACK OF AUTOMATION

There is much information within the Army bureaucracy on which to build a solid and accurate five year flying hour program. There is access to force structure actions which might affect

either aviation personnel or equipment, knowledge of projected accessions or losses, programmed new equipment initial operational capability (IOC) dates, industrial impacts on military logistics programs (especially availability of repair parts and spares), training base capabilities, and any number of other factors which could impact either positively or negatively on the flying hour program. Unfortunately, these type of data do not seem to be readily available to the management structure of the flying hour program. Lack of automation is the primary reason for this problem. The data, when needed, is sought out and manually rolled into the program at the appropriate juncture in the development cycle. Because much of the information is hand-fed into the flying hour process, its factual accuracy retains its identity for only a very short period of time. There is no computerized method of maintaining a grasp on changes. The action officer winds up fighting a losing battle when attempting to keep up with the dynamics of programs and processes which may or may not impact on his efforts.3

OPTEMPO

Recall my previous comment concerning the regulatory requirement of the Commander's Guide, TC 1-210. It directs commanders of units possessing aircraft to formulate a realistic flying hour program annually. This data is then forwarded to the next higher headquarters to be incorporated into the MACOM's requirement documentation process. MACOM's then seek resourcing of these requirements from HQDA in a format similar to that

depicted in Chapter IV of this study. As much as possible, HQDA rolls up all the MACOM requests for flying hours into the service POM. However, because of a continuing concern for the accuracy of the requests, the Army staff element responsibility for the program recomputes the data utilizing an Air OPTEMPO rate as the basis for the recomputations. Air OPTEMPO is defined as "an indicator that expresses flying hour requirements, resourcing levels, and execution.....in terms of hours of flight per-crew-per-month for rotary wing aircraft."4 In the active component, it refers to only the six combat MACOM's: Forces Command (FORSCOM), US Army Southern Command (USARSO), Special Operations Command (SOCOM), US Army Europe (USAREUR), Western Command (WESTCOM), and Eighth US Army (EUSA).5 For the FY89 flying hour program, HQDA established the Air OPTEMPO rate at 15.0 hours.6 OPTEMPO is in reality an average and although, by definition, confined to the six MACOM's mentioned above, has applicability to every agency in the Army with aircraft. My study of the issue has led me to the conclusion that OPTEMPO is currently viewed by the Army staff as the very foundation of the Army Flying Hour Program. For example, to determine a particular aircraft systems requirement, the number of <u>airframes</u> are simply multiplied by the OPTEMPO rate (15.0) and again by twelve (12) to accommodate the annual aspect of the program. For our fictitious attack helicopter battalion identified in Chapter III the formula would read as follows: 21 aircraft (use the HQDA assumption of 1 crew per aircraft) x 15.0 hours OPTEMPO rate = 315 hours x 12 months = 3780 hours. Recall that the formula utilized by the unit in

Chapter III identified a requirement for 3082 hours, a difference of 698 hours. For this one unit, the HQDA methodology reflects a requirement for an additional 700 hours! Magnify this situation throughout the Army and you begin to understand why there is a problem with program execution. HQDA is seeking more hours than the units in the field can fly.

The low personnel assignment rates which cause this problem are primarily the result of officer distribution plan (ODP) guidelines. At the same time the unit will have all authorized airframes on hand and totally incorporated into their activities. The combination of these two factors equate to a crew manning ratio of less than one. Remember that HQDA methodology assumes a crew ration of exactly one for all aircraft systems.

Some aviation commanders might look at my computations for the AH-1 attack battalion and question a lack of flight activity code (FAC) 2 aviators, a low requirement for maintenance test flight hours, high mission support projections unrealistic collective training scenarios, or whatever, but the point I'm making for the purposes of this paper is that the methodology in the field is personnel dependent. Accuracy and realism are the responsibility of the unit. The methodology at HQDA is airframe dependent. Until everyone is united in methodology I am of the opinion that execution of the flying hour program will continue to be a problem. Perpetual differences such as the one I demonstrated above will not go away.

SUMMARY

If Air OPTEMPO is to survive as a management tool within the Army, then its utility must be made available to the builders and executors of the Flying Hour Program - the unit commander. Currently, it is not part of his lexicon or terminology. He is not measured in any readiness fashion against OPTEMPO expectations. It must be a part of his day to day and month to month management criteria. Recall the request from FORSCOM to HQDA for flying hours in Chapter IV. If you compute OPTEMPO for the rotary wing systems, only three of the nine categories meet or exceed the FY89 Air OPTEMPO rate of 15.0.

The real question which OPTEMPO raises in my mind is that of combat readiness - how many hours per month should our crews be flying in order to maintain go-to-war proficiency. Is it 15 hours per month, more than 15 hours per month, or something less? My fear is that analysts will soon use OPTEMPO to judge our aviation readiness. If this is going to be the case, then the Army should take the lead in defining the parameters of the readiness profile. OPTEMPO can be a good management tool, as long as everyone uses it the same way. The OPTEMPO rate should be analytically supportable (to the best of my knowledge it is not currently) and be made a part of the flying hour program development methodology at all levels. The question of combat readiness for aircrews is in itself worthy of a separate study project. It raises a series of questions which can only be answered after long and detailed analysis.

ENDNOTES

1. Personal and Telephonic Interviews/Discussions with Fred Kolstrom, Department of the Army Civilian (GM14). Action Officer, Directorate of Training (DAMO-TRS), Deputy Chief of Staff, Operations, Department of the Army. 1 December 1988-24 March 1989.

2. Ibid.

3. Ibid.

4. Charles Anstrom, Lieutenant Colonel, OPTEMPO Measures - What Do They Mean. Undated (on file in DAMO-TRS).

5. Ibid.

6. Kolstrom, Personal Interview.

CHAPTER VI

CONCLUSIONS/RECOMMENDATIONS

As I depicted in the preceding chapters, the management infrastructure of flying hours throughout the Army is badly in need of review and restructuring. The system suffers from a lack of standardization and management resources at the HQDA level. The disconnect in the methodology between the Army staff and the field is well known by HQDA and actions are being taken to address the problem. The Army simply cannot continue to function with two different flying hour prediction methodologies. The fact is it hasn't worked in the past and I saw nothing during my study which indicated it would work in the future. The people based unit methodology and the airframe based HQDA methodology must be reconciled so that predictions are standardized. Until standardization is implemented, the Army will continue having difficulty executing its resourced flying hour program.

The ODCSOPS, Training Directorate, is currently in the process of finalizing their response to Dr. Chu's directive addressed in Chapter I (improve the management of the Army flying hour program). Hopefully, there will be recommendations and actions which address internal consolidation and computerization of flying hour program variables (personnel, airframe distribution plans, etc.). Favorable response to such a recommendation, as well as accurate resource requests from MACOM's,

will do a great deal to eliminate many of the management problems being experienced today.

ARMY LEADERSHIP CONCERNS

Of significance, is that the problem has been and continues to be of major concern to the Army leadership. It is not something that has just all of a sudden dropped out of the sky. Procedures are in fact being changed and processes developed which will help us to get a better handle on all aspects of the flying hour program. The intent of my study has been to reinforce the need to act expeditiously.

RECOMMENDATIONS

The following recommendations support continued refinement of the flying hour development, management, and execution processes.

a. Air OPTEMPO should focus on the real-world crew ratios of Army aviation units. The assumption of 1 crew per airframe is not proving to be valid. A by-product of this effort may be a detailed review of the Army's peacetime and wartime crew-ratio requirements.

b. OPTEMPO rates should be established for all aviation units, not limited to only the six combat MACOM's.

c. OPTEMPO rates should be analytically supportable.

d. Air OPTEMPO should be tied to combat readiness as is ground OPTEMPO. Require the commander to report against an established standard.

e. Air OPTEMPO and aircrew training manual (ATM) requirements should be reconciled. An AH-1 pilot must fly 110 hours per year to be considered a qualified and current aviation crewmember. The OPTEMPO criteria increases that number to 180 hours (15 x 12 = 180).

f. Validate the flying hour program development methodology in Chapter 5 of Training Circular 1-210. This is the basis for the Army's cumulative requirement.

g. Continue to validate the accuracy of all stated flying hour requirements in the appropriate POM request. POM years 2 and 3 serve as the basis for the procurement of long-lead time repair parts and spares.

h. Recognize that there is a certain degree of subjectivity in the development process of a flying hour program.

i. Define an execution success window of 98%-101%.

j. Create a flying hour office in ODCSOPS that consolidates functions and personnel who have a direct impact on the program. Follow the lead of the Navy and Air Force in this area.

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